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REGIONAL DIFFERENCES AND DETERMINANTS OF SOCIAL CAPITAL IN POLISH ELDERS¹

The paper presents the regional differences in an informal social capital in older age and the role of socio-medical determinants such as the role of self-rated health, migration and socio-demographic characteristics of individuals across NUTS1 regions of Poland. Data based on 1299 interviews performed among people aged 65 and older. Analysis confirmed statistically significant differences between regions in relation to social participation, social support, social network, trust and loneliness, but also different determinants of mentioned dimensions of social capital observed in the considered regions.

Key words: older people; regional differences in informal social capital; socio-medical determinants.

Introduction

Demographic changes in most of the European societies and the rapid process of ageing have significantly influenced growth of sociology of ageing as a specific subdiscipline of medical sociology (Higgs and Jones 2009; Settersten and Angel 2011). Social inequalities in the expected successful ageing, as well as the role of other social determinants of life quality in older age have been the focus of interest of social researches over the last decades (Siegrist and Marmot 2006; George 2006).

However, as Deborah Carr and Sara Moorman pointed out in chapter on “Social Relation and Ageing” in the *Handbook of Sociology of Ageing*, “over the past three decades, researchers have discovered that social relationships are not universally protective for late-life well-being; rather, the protective effects of social ties vary based on the structure, nature, and quality of the relationships. [...] Social gerontologists no longer ask, ‘Do social relationships affect

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¹ Paper presented during The 15th Congress of the Polish Sociological Association, Section: Advancing Regional Analysis in the Sociology of Ageing, Szczecin on September 11th-14th, 2013.

the well-being of older adults?’ Rather, they now ask, ‘*Why, how, when, and for whom* do social relations affect the health of older adults?’” (Carr and Moorman 2011: 145). Among different social determinants of health status in older stages of life the role of social capital has been especially explored.

Definitions of key concepts

Theoretical sociological framework of social capital is based on classical work of Emile Durkheim on “Suicide” as well as on Pierre Bourdieu definition; however, most studies focusing on the relation between social capital and health used the definition of formal social capital formulated by Robert Putnam et al. (1993) and James Coleman (1988) and later the definition developed by Nan Lin (1999), Ichiro Kawachi et al. (1997), Gerry Veenstra (2000) and Michael Woolcock (2001) (Pichler and Wallace 2007).

In his book *Healthy Ties* (2010) Markku T. Hyypä discussed four definitions of social capital, useful in relation to health:

“Bourdieu: social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.

Lin: social capital is defined as resource embedded in one’s social network, resources that can be accessed or mobilized through ties in network.

Putnam: social capital refers to features of social organizations, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions.

Coleman: social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common. They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure. Like other forms of capital, social capital is productive, making possible that achievement of certain ends that would not be attainable in its absence” (Hyypä, 2010: 13).

All these definitions showed that social capital means “the feature of social organization, such as civic participation, norms of reciprocity and trust in others, that facilitate cooperation for mutual benefit” (Kawachi et al. 1997) or “the web of cooperative relationships between citizens that facilitates resolution of collective action problems and those features of social structure, such as levels of interpersonal trust, norms of reciprocity and mutual aid, that act as resources for such collective action” (Veenstra 2000), or “norms and networks that facilitate collective action” (Woolcock 2001 cited by Abbott 2010: 52).

Ichiro Kawachi et al. (1999) distinguish between the contextual effects and the compositional effects of social capital. The compositional effect can be

explained by the number of people living in isolation, without economic and social support, which effects the public health.

Studies performed by Florian Pichler and Claire Wallace (2007) focused on the relationship between two types of social capital (formal associative behaviour or informal social relations – networks). Authors analysed the relationship between social networks, social and family support (informal social capital) and associational behaviour along with social trust (formal social capital).

Data coming from a Russian study showed that social capital mostly takes the form of informal social network (family, relatives, friends), rather than formal institutions (voluntary organisations). Thus Russia was described as “hour glass society” where the informal social networks form is a base and the formal forms are on the top, and there is no, or little communication or trust between the base and the top (Rose 1995).

In the paper “From social integration to health: Durkheim in the new millennium” Lisa Berkman et al. (2000: 843–857) presented a multidimensional analysis of possible mechanisms and pathways (biological, physiological and psychological) between social integration and anomie, social network theory and linked social networks to health, taking into account the assessment of social network and the role of social environment in the adulthood.

From most common perspectives social networks have been defined as the web of identified social relationships that surround an individual person, characteristics of those linkages and the individual’s perception of them (Bowling 1997; Victor et al. 2000).

Social capital and health outcomes

Ming Wen et al. (2006) mentioned that many studies confirmed that neighborhood perceptions contribute to mental and physical well-being; in particular, that negative perceptions of neighborhood environment were associated with elevated depression symptoms, anxiety and other mental health problems.

Richard Carpiano (2006) noticed that a Bourdieu-based conceptual model of neighborhood social capital for health, focused not only on neighborhood effect, but social capital as well.

Such characteristics of social capital as social cohesion, psychological sense of community and informal social control at the neighbourhood have confirmed the positive impact of neighborhood on health (Steptoe and Feldman 2001).

Isolated and/or poorly supported individuals may perceive themselves to be lonely. The objective state of social isolation and subjective perceptions of loneliness and lack of support may exert joint as well as unique psychological pressure and chronic stress (Wen et al. 2006). Psychosocial states such as loneliness

and depression, therefore could underlie the association between neighborhood and health (Wen et al. 2006).

Tiffany Gary et al. (2007) based on experiences of Christopher Browning and Kathleen Cagney (2002), Deborah Cohen et al. (2006), Luisa Franzini et al. (2005) mentioned that several studies have evaluated how perception of community (collective efficacy, social capital, neighborhood poverty, social and physical disorders and social processes) impact general health.

Special attention has been paid to the relationship between health status of elders and their participation in different social networks as a strategy of prevention against social disintegration and exclusion as well as against social and subjective loneliness (Litwin 2001; Mendes de Leon et al. 1999; Birditt et al. 2009).

Stephen Abbott (2010: 55) paid attention to self-efficacy as a possible pathway from social participation to health, while other ones are public services, social networks and support.

Social participation (as an element of social capital) confirmed better health; participation may strengthen social networks and social contacts appear to contribute to health (Abbott, 2010: 54).

In the classical study Faris and Dunham showed that the lack of social integration in socially disorganized communities contributed to behaviors that characterized mental disorders (Silver et al. 2002).

Andrew Steptoe and Pamela Feldman (2001) mentioned that in sociological literature chronic strain plays the role in the mediating the relation between socioeconomic status and physical health. They explained that chronic strain can be linked to “various levels of social structure that place low socio-economic status individuals at greater risk of stress exposure in their work and family life as well as in their local environment”.

Regional differences in social capital, health and quality of life

Results coming from representative sample of 27 countries in relation to regions, showed that Scandinavian countries and the Netherlands had higher levels of all forms of social capital. In South and East Europe informal social capital was more important (in the South mainly in the form of family support). In the East informal support outside the family was also important. The concept of social capital regimes gives a better understanding of the various cultures of participation and cohesion across Europe (Pichler and Wallace 2007).

Regional differences between countries in relation to social capital and political and economic growths have been well documented (Beugelsdijk et al. 2005) as well as the relation between social capital and different aspects of health-related quality of life in older age (Berkman 2000; Engström and Mattsson

2008; Finch et al. 1989; Fiori et al. 2008; Garcia et al. 2005; Islam et al. 2006; Kawachi and Berkman 2001; Wenger 1997).

Data coming from European Values Study Survey (1999/2000) showed differences in country scores in trust and networks. For example generalized trust for Finland was 1,6, for Spain 1,4, and for Poland 1,2 (score 1-3); for friends network: Finland 2,2, for Spain 2,1, for Poland 1,7(score 1-3), and for family network for Finland 1,6, for Spain 2,5 , for Poland 2,6 (score 1-3). The data show that in Scandinavian countries social capital levels tend to be slightly higher with the exception of family bounding (van Oorschot et al. 2006).

A study performed by Per Carlson (2004) showed differences in economic satisfaction, in trust level of activity in voluntary organisations and confidence in legal system across West and East European countries. Data confirmed two times lower level of trust in Central/Eastern European countries in comparison to West countries, similar differences have been observed regarding involvement in voluntary organisations and confidence in legal system. This study showed also that economic factors as well as some aspects of social capital play a role for area differences in self-rated health (Carlson 2004).

Testing if the Putnam hypothesis about the relation between social capital and economic growth can be generalized Sjoerd Beugelsdijk and Ton van Schaik (2005) collected data from 54 regions in Europe. Their analysis did not support the hypothesis that economic growth was positively associated with trust, or that it is not the mere existence of network relationships that stimulates regional economic growth but active involvement in these relationships (Beugelsdijk and van Schaik 2005).

Per Carlson (2004) mentioned that European east-west health divide has been well-documented, although requires explanation. Several studies suggested that mainly social and economic forces influence the people's perceptions of control as explanations for differences in self-rated health.

Wim Van Oorschot and John Gelissen (2006) used various aspects of social capital (networks, trust, civism) to construct an instrument for measuring its multifacetedness and based on data from the 1999/2000 European Values Study Survey showed how social capital is distributed geographically among European countries and regions (North, West, South, East) and socially among social categories of European citizens. Among eastern countries Poland and such countries like Bulgaria, Croatia, the Czech Republic, Estonia, Latvia, Lithuania, Hungary were a cluster.

Less has been discovered about regional differences in social capital of older people on a local level in such countries as Poland, and about the determinants of different dimensions of social capital on local level.

Objectives, aim of the study

The present paper analyzes patterns of social participation of older people, as well as the perception of social trust and social integration, as a consequence of the past circumstances experienced by older people and associated with the stability of place of residence or as an effect of different forms of migration, caused by political conditions (changes of west – east national borders) or influenced by processes of industrialization and urbanization that took place in the second half of the 20th century.

The aim of the present paper was to assess the regional differences in social trust, social participation and social integration as indicators of quality of life and social capital in older age, and to verify the role of self-rated health, migration and socio-demographic characteristics of individuals as possible determinants of social capital indicators across NUTS1 regions of Poland.

For the purpose of presented paper the following hypotheses have been developed:

1. Differences in various aspects of social capital in older population exist in relation to analyzed regions in Poland.

2. Older people living in different regions in Poland present different level of social participation, social trust, social support, social networks and level of loneliness .

In the presented paper definition of social capital developed by Coleman (1988), as a resource for action, or more concretely all those aspects of the social structure (interpersonal trust, norms of reciprocity, density of civic associations), that facilitate action, has been employed.

Study design and sampling

The cross-sectional study *COURAGE in Europe* was conducted in 2011-2012 (Leonardi, 2013). The sample was selected on the basis of multi-stage clustered design from the non-institutionalized adult population. Face-to-face interviews were performed by specially trained interviewers at homes of the individuals under study. The individual response rate was 66,5 percent for Poland. Data were weighted to generalize the study sample to the reference population.

From 1408 interviews performed among people aged 65 and older, 109 interviews were excluded because they were conducted with proxy respondents, thus the social capital/cohesion part of the protocol was not asked.

Measurements

Six regions of Poland (South-West, South, East, Central, North and North-West) according to first level of Nomenclature of Units for Territorial Statistics (NUTS1) classification were distinguished (Eurostat 2011).

Socio demographic data as age, gender, marital status, numbers of years of education, place of living (urban; rural) and migration status (always living in the same place; immigration from another city in the voivodeship; immigration from another rural area in the voivodeship; immigration from another city outside the voivodeship; immigration from another rural area outside the voivodeship; immigration from another country) of subjects were collected as a part of the protocol. Self-rated health was assessed by the question: "In general, how would you rate your health today?" with five-point response categories ranging from "very good" to "very poor".

Social participation was assessed as a factor score of eight items. Questions concerned the frequency of attendance at public meetings, meeting with community leader, attendance at any group or organizational meeting, work with people from neighborhood to fix or improve something, having friend(s) at own home, visiting or hosting someone who lives in a different neighborhood, participation in sport competition or doing sport with someone else and getting out from the house to attend a social meeting. All questions were measured with five point Likert scale ranging from "never" to "daily".

Perceived social support was measured by the OSLO-3 Social Support Scale (Dalgard et al. 2006).

In order to measure social networks, the COURAGE Social Network Index (CSNI) was used (Zawisza et al. 2013). The COURAGE-SNI assesses elements of the function of social networks (frequency of direct contact, ties and social support) provided by structural components (spouse or partner, parents, children, grandchildren, other relatives, neighbors, friends, co-workers). The score was obtained by Item Response Theory procedure and results are interpreted as social networks saturation.

Loneliness was assessed by means of the Three-item UCLA Loneliness Scale (Hughes et al. 2004).

Trust was measured as a factor score of five items. Three questions were measured on the five point Likert scale and concerned the extent of trust towards people from neighborhood, those with whom the respondents work and strangers. The other two questions, measured by a dichotomous variable, were related to general trust towards people and having a trusted person.

All aforementioned scales ranged from 0 to 100, where 0 indicated the lowest level of social participation, support, social network, loneliness and trust while 100 the highest one.

Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics 21. Maps were prepared in ArcGIS. The differences in sociodemographic characteristics as well as social participation, social support, social networks, loneliness and trust between NUTS1 regions of Poland were verified by chi-square test or Uni-anova and Scheffe's post-hoc test or the Kruskal-Wallis test. Subsequently, determinants of social capital indicators across NUTS1 regions of Poland were assessed by multivariate linear regression models.

Results

The average weighted age of the respondents was 75,1 (SD=6,9) and there were 55,6 percent of females. Demographic and social characteristics of older people living in the considered Polish regions were presented in table 1. The percent of currently married or cohabited was ranged from 51,4% in the South region to 68% in the Central region. In the Central region the lowest percentage of never married people and those separated or divorced was observed. The highest percentage of never married people was found in the South region (9,4%) and people who were separated or divorced in the North-West region (5,9%). The most of widowed people were found in the North region (38,3%). The highest average years of education completed was reported among older residents of the South-West region and the Central region, the lowest among people living in the East and the South region. Higher percentage of working people aged 65 and over was observed in the South-West, the South and the Central regions. Significant differences in relation to place of residence were also found (higher proportion of living in the urban area in the North-West (79,0%), the South-West (74,2%) and the Central (70,6%) region). Besides, self-rated health status was reported as poor or very poor from around 20% of residents of the North region to 38,3% of people lived in the East region. Very good or good health was shown by around 23% people lived in the South-West region and just 13,6% of those lived in the South region (Table 1.).

Figure 1. presents regional differences in the level of indicators of social capital. Data confirmed statistically significant differences between regions in relation to social participation, social support, social network, loneliness and trust. The higher social participation has been noticed in South-West, Central and South, and the lower in North, East and North-West. The Social Support Scale showed higher results in such regions as South-West and North, middle in North, East and Central, the lowest in the North-West region. The highest values of the Courage Social Network Index was noticed in South-West and the

South region, the lowest in the Central region. In the North-West and the East regions lower level of social trust and higher level of loneliness were observed. The higher level of social trust has been confirmed in North, Central and South-West and the lowest level of loneliness was observed in the South-West region (Figure 1).

Subsequently, different social and subjective health determinants in relation to social participation, social trust, social support, social loneliness and social networks were verified by NUTS1 regions (Table 2). In the South-West region the level of social participation decreased with age and with lower self-rated health. Social support was significantly lower in elders immigrants from another city, outside of the voivodeship. Social networks were lower in widowed individuals as compared to married one. Social trust increased with a rise in the number of years of education, whereas decreased in persons with poorer self-rated health and was lower among immigrants from other cities as well as rural areas within and outside the voivodeship in comparison to individuals always living in the same place. Significant determinants of loneliness were not found among analyzed variables in considered region.

In the South region social participation was lower in never married participants, in those currently not working, and with poorer self-rated health while higher number of years of education increased the social participation. Social support was reported in significantly higher level by women, but was poorer in elder never married and were not currently working. Social networks were significantly lower in elder people who were separated, divorced or widowed in comparison to married individuals, decreased with higher number of years of education and in individuals currently not involved in working, with poorer self-rated health and in immigrants from another rural area outside the voivodeship. Higher level of loneliness was confirmed by females, participants who never married and widowed. Trust was lower in older people currently not working and in immigrants from another rural area outside the voivodeship.

In the East region social participation decreased with age and was higher in immigrants from another city outside the voivodeship. Social support also decreased with age. Social networks were significantly influenced by self-rated health, and were higher in rural areas. The level of loneliness was higher among never married and those with poorer self-rated health as well as in participants from rural areas. No significant determinants of social trust were confirmed among analyzed variables.

In the Central region social participation depended on numbers of years of education and depended negatively on self-rated health. Social participation was lower in immigrants from another city within the voivodeship, but higher in immigrants from another cities as well as another rural areas outside the voivodeship. Besides, elder immigrants from another country presented a lower level of

social participation. Social support was higher in women, lower in persons not involved in working activity and with poor self – rated health. Immigration from another rural area significantly influenced the level of social support. Social networks decreased with age and were lower in women and in individuals with poorer self-rated health. The level of loneliness decreased with increasing of the number of years of education and was higher among immigrants from another city outside the voivodeship. Trust was significantly lower among women and those who were never married.

In the North region social participation depended on the number of years of education and was lower in elders with poor self-rated health. Social support decreased with age and was lower in immigrants from another rural area outside the voivodeship. Social networks were poorer in participants who never married, were widowed and reported poorer self-rated health. Persons coming from another city within and outside the voivodeship confirmed better social networks. Trust significantly increased with age, higher number of years of education and living in the rural areas, while was lower in elders currently not working, in immigrants from outside the voivodeship.

In the North-West social participation was lower in advanced age, in participants who were separated or divorced, or with poor self-rated health. The number of years of education and being an immigrant from another city outside the voivodeship significantly increased the level of social participation. Social support depended of the occupational position (not working). Social networks were poorer in participants who never married, separated or divorced or widowed. Loneliness was significantly higher among participants never married, separated or divorced and widowed in comparison with married ones, it was also significantly related to self-rated health. Trust positively depended on higher number of years of education and living in a rural area, and was poorer in elders with poor self-rated health (Table 2.).

The relation between place of residence in the childhood and level of social capital has not been confirmed (results not shown here).

Conclusions

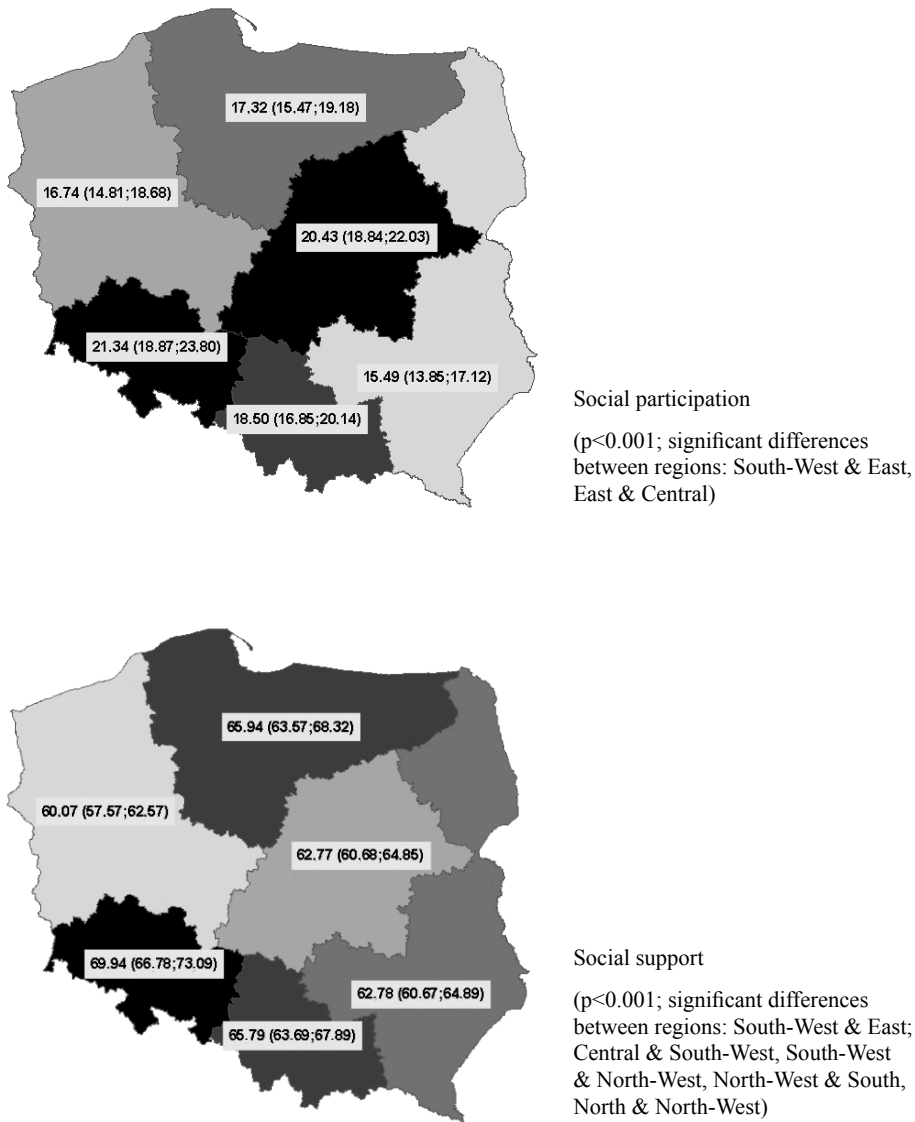
In a changing world, the social image of the old age as the “golden age” when older people enjoy considerable power and prestige has also become subject to change (Lloyd–Sherlock 2000: 892). Currently it is the intergenerational relationships and participation in social networks that decide about the level of integration or social isolation of older citizens. Social capital at the older stage of life should be analysed in relation to social, material and cultural resources which have been built over the life span. Multidimensional approach to

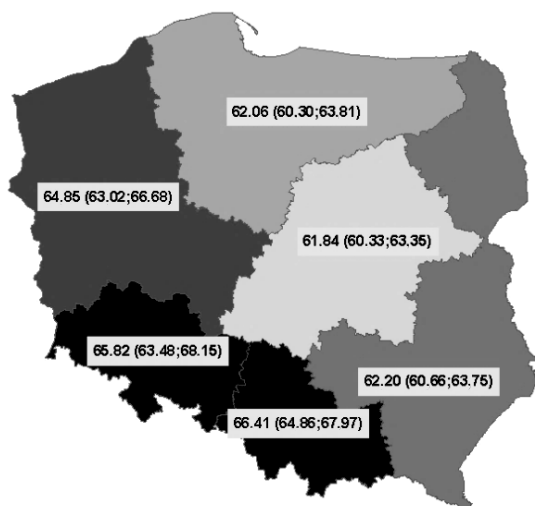
individual social capital which can be used by older people in different stressful situations characterizing the ageing process could be additionally described in relation to local communities and social capital at population level, presented by different regions. The data collected in the present study confirmed not only regional differences in social participation, social support, trust and loneliness, but also different determinants of mentioned dimensions of social capital. It is necessary to stress the role of structured determinants mostly associated with the level of education and marital status, but also the role of changing the place of residence (effect of migration both from rural to urban community as well as changes associated with horizontal migration). It is also very important to emphasize the role of subjective assessment of health status (self-rated health) of older people as a significant determinant of all dimensions of social capital.

It is very difficult to find clear and supported by scientific data explanation for mentioned differences in the level of social capital perceived by Polish older people. The lowest social capital was observed in opposite part of Poland – in west part with relatively high economic growth as well as in the elders – residents of east part of the country, symbolized rather lower level of economic growth. These data didn't correspond with well-documented results confirming the association between economic growth and development of social capital. It is necessary also to stress, that migration from rural to urban areas has been confirmed as an independent predictor of poor social support, social participation and social network, even in regions presented in general the highest level of mentioned aspects of social capital. Observed differences between West South and North West regions could be partly explained by ethnical differences and historical background of current older people but also as a different effect of migrations observed in both regions during the last decades before and after the Polish transformation changes (Jaźwińska 1997; Okólski 2012). It is necessary to emphasize that National Statistics Office Report (2013) focused on Quality of Life, Social Capital, Poverty and Social Exclusion in Poland also showed the lower level of ties with neighborhood in the place of residence, lower level of engagement in formal social network as well as lower level of social contacts in West-Pomeranian Voivodship in comparison to general Polish population. Maybe the highest level of social capital observed in the South-West Region in our study can be explain by the high satisfaction with material conditions of life, leisure time activity and formal institutional support (National Statistics Office 2013).

Presented data should be a basis for recommendations for the development of the social policy for older people especially relations between older and younger generations and ways of coping with all social and health disadvantages and the decreased quality of life in older age.

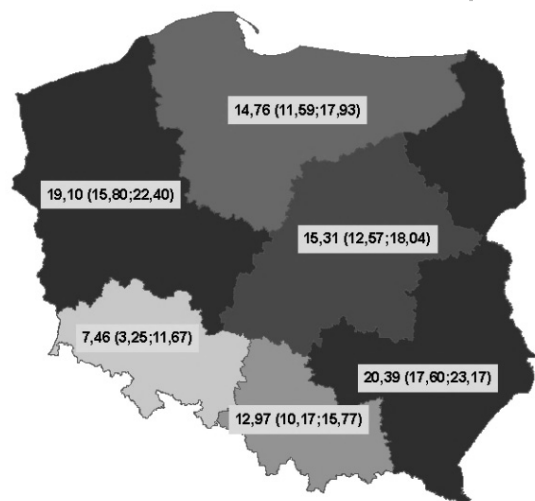
Figure 1. The level of social participation, social support, social networks, loneliness and trust in six NUTS1 regions of Poland (Means and 95% confidence Intervals for means)





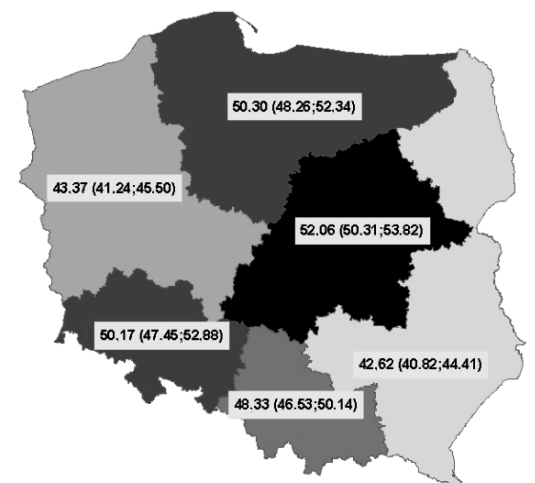
Social networks

($p < 0.001$; significant differences between regions: South & East, South & Central, South & North)



Loneliness

($p < 0.001$; significant differences between regions: South-West & East, South-West & North-West, South & East)



Trust

($p < 0.001$; significant differences between regions: South-West & East, South-West & North-West, South & East, South & North-West, East & Central, East & North, Central & North-West, North & North-West)

Table 1. Sociodemographic characteristics across NUTS1 regions (weighted data)

	1. South-West	2. South	3. East	4. Central	5. North	6. North-West	p-value
Age [mean (SD); median (Q1;Q3)]	75.1 (6.2) 74.7 (70.1;78.9)	74.5 (6.5) 73.9 (68.9;79.4)	75.4 (7.4) 73.4 (69.6;81.3)	75.3 (7.1) 74.2 (69.0;80.9)	75.6 (7.0) 75.6 (69.9;80.4)	74.8 (6.6) 74.2 (69.6;79.8)	p=0.418
Female (%)	51.7	56.6	53.3	60.7	60.4	47.1	p=0.035
Currently working (%)	16.2	17.8	8.1	15.5	8.8	8.9	p=0.003
Urban (%)	74.2	66.0	46.7	70.6	67.9	79.0	p<0.001
Number of years of education [mean (SD); median (Q1;Q3)]	11.1 (4.0) 11.0 (8.0;13.0)	9.5 (3.7) 9.0 (7.0;11.0)	9.4 (3.6) 9.0 (7.0;12.0)	10.6 (4.0) 11.0 (7.0;13.0)	9.9 (3.5) 9.0 (7.0;12.0)	10.1 (3.6) 10.0 (7.0;12.0)	p<0.001
Total household income (PLN/month) [mean (SD); median (Q1;Q3)]	2301,1 (1332,7) 1936,9 (1232,6;3345,6)	2251,2 (1370,9) 1936,9 (1232,6;2993,4)	2046,4 (1244,4) 1936,9 (1232,6;2641,3)	3173,1 (9292,9) 2289,1 (1232,6;3345,6)	2566,8 (1636,7) 2289,1 (1584,8;2993,4)	2522,7 (2132,6) 2289,1 (1232,6;2993,4)	p=0.066
Self-rated health status (%)							
Very good	2.2	0.3	0.8	0.0	1.0	2.5	
Good	20.6	13.3	14.3	15.4	18.7	14.9	
Moderate	47.4	56.7	46.6	53.9	60.2	51.8	p<0.001
Poor	24.2	19.9	33.8	25.2	18.2	25.6	
Very poor	5.6	9.8	4.4	5.5	1.8	5.1	
Marital status (%)							
Never married (and no cohabiting)	1.5	9.4	7.7	1.1	3.8	3.3	
Currently married or cohabiting	61.0	51.4	59.7	68.0	54.5	60.9	p<0.001
Separated or divorced	5.4	3.6	4.4	2.0	3.4	5.9	
Widowed	32.0	35.6	28.3	28.9	38.3	29.9	
Migration (%)							
Always living in the current place of residence	14.6	48.9	41.2	53.9	34.6	21.9	
Immigrant from another city in the voivodeship	12.0	14.2	10.3	11.5	13.1	12.4	
Immigrant from another rural area in the voivodeship	25.3	13.6	32.5	19.8	15.2	27.5	
Immigrant from another city outside the voivodeship	27.7	14.3	11.7	8.5	17.7	18.4	p<0.001
Immigrant from another rural area outside the voivodeship	11.7	8.5	3.7	4.2	13.2	15.8	
Immigrant from another country	8.6	0.5	0.7	2.1	6.2	4.1	

Notes: SD – standard deviation; Q1 – first quartile; Q3 – third quartile.

Table 2. Determinants of social participation, social support, social networks, loneliness and trust by regions

1. South-West										
	Social participation		Social support		Social networks		Loneliness		Trust	
	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)
Age	-0.33	-0.89 (-1.44;-0.34)	-0.18	-0.48 (-1.03;0.08)	-0.12	-0.23 (-0.63;0.18)	0.13	0.37 (-0.24;0.99)	0.08	0.21 (-0.30;0.73)
Females vs. Males	-0.17	-5.64 (-13.10;1.82)	0.02	0.50 (-6.99;7.99)	0.13	2.94 (-2.48;8.37)	0.05	1.64 (-6.69;9.96)	0.09	2.90 (-4.04;9.85)
Never married vs. Married	0.10	13.31 (-11.56;38.18)	0.00	0.36 (-24.59;25.30)	-0.14	-13.30 (-31.38;4.78)	0.18	25.20 (-2.54;52.93)	-0.03	-4.54 (-27.68;18.59)
Separated/divorced vs. Married	0.00	0.14 (-13.55;13.83)	-0.03	-2.52 (-16.26;11.22)	-0.22	-11.07 (-21.03;-1.11)	0.05	3.75 (-11.52;19.02)	-0.10	-7.05 (-19.79;5.69)
Widowed vs. Married	0.13	4.51 (-3.94;12.97)	0.01	0.38 (-8.10;8.87)	-0.24	-5.82 (-11.97;0.33)	0.14	5.29 (-4.14;14.72)	0.06	1.96 (-5.91;9.82)
Number of years of education	-0.07	-0.29 (-1.11;0.53)	0.10	0.42 (-0.41;1.24)	-0.07	-0.19 (-0.79;0.41)	-0.12	-0.51 (-1.43;0.41)	0.21	0.84 (0.07;1.60)
Currently working (No vs. Yes)	-0.17	-7.81 (-17.10;1.48)	-0.15	-6.66 (-15.98;2.66)	0.07	2.02 (-4.73;8.78)	0.00	-0.18 (-10.54;10.18)	0.03	1.44 (-7.21;10.08)
Self-rated health status	-0.25	-4.81 (-8.62;-0.99)	-0.19	-3.54 (-7.37;0.29)	-0.16	-2.11 (-4.89;0.66)	0.08	1.70 (-2.56;5.96)	-0.35	-6.44 (-10.00;-2.89)
Living place (Rural vs. Urban)	-0.10	-3.92 (-11.78;3.94)	-0.04	-1.67 (-9.56;6.21)	0.03	0.85 (-4.87;6.56)	0.13	5.24 (-3.53;14.00)	-0.02	-0.61 (-7.92;6.71)
Migration (reference category: Always living in current living place)										
Immigrant from another city in the voivodeship	0.07	3.37 (-9.18;15.92)	-0.12	-6.22 (-18.81;6.37)	-0.16	-5.56 (-14.68;3.57)	0.04	2.21 (-11.79;16.20)	-0.30	-14.73 (-26.40;-3.05)
Immigrant from another rural area in the voivodeship	0.08	3.17 (-7.74;14.08)	-0.06	-2.21 (-13.16;8.73)	-0.30	-7.86 (-15.80;0.07)	0.04	1.44 (-10.72;13.61)	-0.37	-13.75 (-23.90;-3.60)
Immigrant from another city outside the voivodeship	0.08	2.83 (-7.50;13.16)	-0.27	-9.87 (-20.23;0.49)	-0.19	-4.76 (-12.27;2.75)	0.02	0.96 (-10.56;12.48)	-0.29	-10.32 (-19.93;-0.71)
Immigrant from another rural area outside the voivodeship	0.07	3.78 (-8.20;15.76)	-0.25	-12.70 (-24.72;-0.68)	-0.20	-7.02 (-15.74;1.69)	0.07	3.99 (-9.38;17.35)	-0.32	-15.83 (-26.97;-4.68)
Immigrant from another country	0.13	7.86 (-5.14;20.86)	-0.22	-12.79 (-25.83;0.26)	-0.11	-4.67 (-14.13;4.78)	-0.08	-4.78 (-19.28;9.72)	-0.11	-6.43 (-18.53;5.66)
2. South										
	Social participation		Social support		Social networks		Loneliness		Trust	
	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)
Age	-0.06	-0.11 (-0.38;0.15)	-0.04	-0.11 (-0.49;0.28)	-0.07	-0.14 (-0.43;0.14)	0.08	0.27 (-0.22;0.77)	-0.03	-0.07 (-0.44;0.29)

Females vs. Males	0.08	2.05 (-1.37;5.48)	0.33	11.30 (6.30;16.30)	0.09	2.26 (-1.44;5.96)	-0.20	-8.64 (-15.01;-2.27)	-0.08	-2.40 (-7.11;2.32)
Never married vs. Married	-0.19	-8.01 (-13.29;-2.73)	-0.19	-11.22 (-18.94;-3.50)	-0.12	-5.44 (-11.15;0.27)	0.16	11.28 (1.45;21.11)	-0.11	-6.06 (-13.34;1.21)
Separated/divorced vs. Married	0.09	6.42 (-1.81;14.65)	-0.09	-8.25 (-20.28;3.78)	-0.21	-14.59 (-23.49;-5.69)	0.05	6.24 (-9.08;21.57)	0.06	5.29 (-6.05;16.62)
Widowed vs. Married	-0.03	-0.83 (-4.63;2.98)	-0.08	-2.79 (-8.35;2.76)	-0.25	-6.69 (-10.80;-2.58)	0.19	8.25 (1.18;15.33)	0.10	3.15 (-2.09;8.38)
Number of years of education	0.33	1.13 (0.70;1.56)	0.03	0.13 (-0.50;0.75)	-0.22	-0.77 (-1.24;-0.31)	-0.11	-0.61 (-1.41;0.19)	0.00	0.02 (-0.57;0.61)
Currently working (No vs. Yes)	-0.19	-6.11 (-10.01;-2.22)	-0.15	-6.55 (-12.24;-0.86)	-0.13	-4.38 (-8.58;-0.17)	-0.08	-4.40 (-11.64;2.85)	-0.26	-10.62 (-15.98;-5.26)
Self-rated health status	-0.17	-2.65 (-4.58;-0.72)	-0.13	-2.66 (-5.47;0.15)	-0.18	-2.84 (-4.92;-0.75)	0.12	3.17 (-0.41;6.75)	0.02	0.44 (-2.21;3.10)
Living place (Rural vs. Urban)	-0.04	-0.93 (-4.33;2.46)	-0.10	-3.65 (-8.60;1.31)	-0.06	-1.66 (-5.33;2.01)	0.11	4.72 (-1.60;11.04)	-0.03	-0.97 (-5.64;3.71)
Migration (reference category: Always living in current living place)										
Immigrant from another city in the voivodeship	0.10	3.45 (-1.14;8.05)	-0.04	-1.98 (-8.70;4.73)	-0.12	-4.33 (-9.30;0.63)	0.15	9.18 (0.63;17.73)	-0.08	-3.74 (-10.07;2.58)
Immigrant from another rural area in the voivodeship	0.12	4.40 (-0.09;8.88)	0.06	3.12 (-3.43;9.67)	-0.01	-0.37 (-5.22;4.48)	0.07	4.42 (-3.93;12.76)	-0.01	-0.27 (-6.45;5.90)
Immigrant from another city outside the voivodeship	-0.01	-0.53 (-5.36;4.30)	-0.12	-5.99 (-13.05;1.06)	-0.04	-1.57 (-6.79;3.64)	0.06	3.35 (-5.63;12.33)	-0.04	-1.73 (-8.37;4.92)
Immigrant from another rural area outside the voivodeship	-0.12	-5.57 (-11.19;0.06)	-0.04	-2.41 (-10.63;5.81)	-0.18	-8.19 (-14.27;-2.11)	0.02	1.33 (-9.14;11.80)	-0.20	-11.41 (-19.16;-3.67)
Immigrant from another country	-0.06	-11.06 (-32.42;10.31)	-0.04	-9.23 (-40.44;21.98)	-0.03	-5.19 (-28.28;17.90)	0.06	17.24 (-22.52;56.99)	-0.05	-12.20 (-41.61;17.22)
3. East										
	Social participation		Social support		Social networks		Loneliness		Trust	
	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)
Age	-0.15	-0.26 (-0.51;-0.004)	-0.16	-0.35 (-0.69;-0.01)	0.00	0.00 (-0.27;0.27)	0.13	0.45 (-0.06;0.96)	-0.04	-0.08 (-0.35;0.20)
Females vs. Males	-0.08	-2.12 (-5.70;1.46)	0.01	0.44 (-4.35;5.23)	-0.08	-2.20 (-6.08;1.67)	-0.05	-2.48 (-9.66;4.71)	-0.12	-2.97 (-6.87;0.93)
Never married vs. Married	0.06	2.90 (-3.39;9.20)	-0.12	-7.44 (-15.87;0.99)	-0.11	-5.61 (-12.43;1.21)	0.17	17.18 (4.53;29.82)	-0.04	-1.86 (-8.72;5.00)
Separated/divorced vs. Married	0.06	3.76 (-4.50;12.03)	-0.02	-1.76 (-12.82;9.31)	0.03	2.01 (-6.95;10.97)	0.11	14.73 (-1.88;31.33)	0.04	2.49 (-6.52;11.50)
Widowed vs. Married	0.04	1.18 (-2.86;5.23)	0.08	2.83 (-2.59;8.24)	-0.06	-1.72 (-6.10;2.67)	0.03	1.96 (-6.16;10.09)	0.06	1.82 (-2.59;6.23)

Number of years of education	0.11	0.38 (-0.27;1.03)	0.10	0.47 (-0.40;1.34)	-0.06	-0.22 (-0.92;0.49)	-0.14	-1.07 (-2.37;0.24)	0.00	0.00 (-0.71;0.71)			
Currently working (No vs. Yes)	-0.08	-3.50 (-9.35;2.34)	-0.04	-2.48 (-10.31;5.34)	0.09	4.44 (-1.89;10.78)	-0.11	-11.10 (-22.84;0.64)	0.13	5.93 (-0.45;12.30)			
Self-rated health status	-0.08	-1.23 (-3.30;0.83)	-0.10	-2.10 (-4.86;0.67)	-0.15	-2.59 (-4.82;-0.35)	0.29	9.60 (5.46;13.75)	-0.06	-1.01 (-3.26;1.24)			
Living place (Rural vs. Urban)	-0.01	-0.15 (-3.79;3.49)	0.03	0.98 (-3.89;5.86)	0.30	7.83 (3.89;11.78)	-0.29	-15.20 (-22.51;-7.89)	0.03	0.85 (-3.11;4.82)			
Migration (reference category: Always living in current living place)													
Immigrant from another city in the voivodeship	0.00	0.19 (-5.51;5.89)	-0.04	-2.35 (-9.98;5.28)	0.07	3.24 (-2.93;9.41)	0.11	9.24 (-2.21;20.68)	0.05	2.29 (-3.92;8.50)			
Immigrant from another rural area in the voivodeship	-0.06	-1.66 (-5.57;2.26)	-0.05	-1.57 (-6.81;3.67)	0.07	2.03 (-2.21;6.27)	-0.04	-2.26 (-10.13;5.61)	0.07	1.96 (-2.31;6.23)			
Immigrant from another city outside the voivodeship	0.18	6.98 (1.29;12.66)	-0.12	-6.20 (-13.82;1.41)	0.01	0.30 (-5.87;6.46)	-0.05	-4.44 (-15.86;6.98)	0.03	1.28 (-4.92;7.48)			
Immigrant from another rural area outside the voivodeship	-0.07	-4.44 (-13.02;4.13)	-0.11	-9.66 (-21.15;1.82)	0.11	7.91 (-1.38;17.20)	-0.03	-4.04 (-21.27;13.18)	-0.04	-2.90 (-12.25;6.45)			
Immigrant from another country	0.10	16.06 (-3.97;36.09)	0.03	6.56 (-20.26;33.37)	0.06	9.76 (-11.94;31.46)	-0.03	-11.14 (-51.36;29.09)	0.01	1.78 (-20.05;23.62)			
4. Central													
	Social participation			Social support			Social networks			Loneliness		Trust	
	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	
Age	-0.03	-0.05 (-0.30;0.20)	-0.11	-0.29 (-0.66;0.08)	-0.24	-0.47 (-0.73;-0.21)	0.06	0.16 (-0.23;0.55)	-0.03	-0.08 (-0.41;0.26)			
Females vs. Males	-0.06	-1.77 (-5.39;1.85)	0.15	5.81 (0.40;11.22)	-0.14	-4.07 (-7.84;-0.29)	0.05	1.91 (-3.78;7.59)	-0.24	-8.34 (-13.18;-3.51)			
Never married vs. Married	-0.08	-10.47 (-25.20;4.25)	-0.06	-10.95 (-32.97;11.06)	-0.07	-9.72 (-25.08;5.64)	0.04	8.69 (-14.46;31.84)	-0.13	-20.99 (-40.66;-1.31)			
Separated/divorced vs. Married	0.01	1.29 (-9.49;12.06)	-0.08	-11.34 (-27.45;4.77)	-0.09	-9.30 (-20.54;1.94)	0.06	8.03 (-8.91;24.97)	-0.08	-9.38 (-23.78;5.02)			
Widowed vs. Married	0.08	2.44 (-1.60;6.47)	-0.05	-1.93 (-7.96;4.10)	-0.08	-2.38 (-6.59;1.83)	0.18	7.96 (1.62;14.30)	-0.02	-0.90 (-6.29;4.49)			
Number of years of education	0.36	1.28 (0.83;1.72)	0.03	0.13 (-0.54;0.80)	-0.06	-0.21 (-0.67;0.26)	-0.14	-0.71 (-1.41;-0.003)	0.08	0.32 (-0.28;0.92)			
Currently working (No vs. Yes)	-0.06	-2.47 (-6.89;1.96)	-0.23	-12.34 (-18.96;-5.73)	-0.11	-4.11 (-8.73;0.51)	0.10	5.73 (-1.23;12.69)	0.06	2.67 (-3.24;8.58)			
Self-rated health status	-0.14	-2.65 (-4.77;-0.53)	-0.23	-5.73 (-8.89;-2.56)	-0.20	-3.66 (-5.87;-1.45)	0.11	2.86 (-0.47;6.20)	0.00	0.05 (-2.78;2.88)			
Living place (Rural vs. Urban)	0.04	1.10 (-2.48;4.68)	0.07	2.92 (-2.43;8.27)	0.00	0.13 (-3.60;3.87)	0.01	0.42 (-5.20;6.04)	0.01	0.33 (-4.44;5.11)			

Migration (reference category: Always living in current place of residence)													
Immigrant from another city in the voivodeship	-0.13	-5.60 (-10.63;-0.58)	0.01	0.87 (-6.64;8.38)	-0.07	-3.10 (-8.34;2.14)	-0.07	-4.43 (-12.33;3.46)	-0.07	-3.52 (-10.23;3.19)			
Immigrant from another rural area in the voivodeship	-0.04	-1.43 (-5.51;2.64)	-0.02	-0.95 (-7.04;5.14)	-0.08	-2.77 (-7.02;1.48)	-0.04	-1.80 (-8.21;4.60)	0.00	0.10 (-5.34;5.55)			
Immigrant from another city outside the voivodeship	0.15	7.50 (1.49;13.51)	-0.06	-4.48 (-13.47;4.50)	-0.08	-4.26 (-10.52;2.01)	0.13	9.75 (0.31;19.20)	-0.05	-3.07 (-11.10;4.96)			
Immigrant from another rural area outside the voivodeship	0.13	9.42 (1.32;17.53)	0.16	15.77 (3.65;27.89)	0.04	2.93 (-5.53;11.38)	-0.07	-7.10 (-19.84;5.64)	-0.01	-0.83 (-11.66;10.00)			
Immigrant from another country	-0.19	-18.72(-29.91;-7.53)	0.10	12.97 (-3.75;29.70)	0.00	0.17 (-11.50;11.84)	-0.01	-1.45 (-19.04;16.13)	0.07	7.91 (-7.04;22.86)			
5. North													
	Social participation			Social support			Social networks			Loneliness		Trust	
	Beta	B (95% CI)		Beta	B (95% CI)		Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	
Age	-0.15	-0.26 (-0.53;0.01)	-0.20	-0.46 (-0.85;-0.08)	-0.13	-0.22 (-0.48;0.04)	0.06	0.17 (-0.34;0.69)	0.21	0.39 (0.10;0.67)			
Females vs. Males	0.05	1.35 (-2.33;5.03)	0.11	3.62 (-1.63;8.86)	0.06	1.39 (-2.17;4.96)	0.10	4.25 (-2.80;11.30)	0.03	0.86 (-3.07;4.79)			
Never married vs. Married	0.03	1.84 (-6.77;10.45)	-0.13	-10.76 (-23.03;1.52)	-0.15	-9.13 (-17.47;-0.79)	0.12	13.90 (-2.59;30.39)	0.09	6.00 (-3.20;15.20)			
Separated/divorced vs. Married	0.01	0.40 (-8.59;9.40)	-0.04	-3.42 (-16.24;9.41)	-0.10	-5.99 (-14.70;2.73)	0.05	6.11 (-11.12;23.34)	-0.09	-6.27 (-15.88;3.34)			
Widowed vs. Married	-0.03	-0.74 (-4.86;3.39)	0.02	0.75 (-5.13;6.63)	-0.20	-4.62 (-8.62;-0.63)	0.05	2.30 (-5.60;10.19)	-0.05	-1.43 (-5.84;2.97)			
Number of years of education	0.30	1.06 (0.51;1.60)	-0.04	-0.18 (-0.96;0.59)	-0.12	-0.39 (-0.92;0.14)	0.00	0.01 (-1.03;1.05)	0.27	0.98 (0.40;1.57)			
Currently working (No vs. Yes)	0.01	0.52 (-5.32;6.37)	-0.11	-6.02 (-14.36;2.32)	-0.01	-0.60 (-6.26;5.07)	-0.13	-9.55 (-20.75;1.65)	-0.14	-6.57 (-12.82;-0.32)			
Self-rated health status	-0.28	-4.86 (-7.33;-2.39)	-0.01	-0.18 (-3.70;3.34)	-0.18	-2.94 (-5.33;-0.55)	0.14	4.27 (-0.46;9.00)	-0.03	-0.46 (-3.10;2.18)			
Living place (Rural vs. Urban)	0.09	2.42 (-1.37;6.20)	0.10	3.30 (-2.10;8.70)	0.05	1.28 (-2.39;4.95)	0.04	1.71 (-5.55;8.96)	0.16	4.40 (0.36;8.45)			
Migration (reference category: Always living in current living place)													
Immigrant from another city in the voivodeship vs. Always living in current living place	-0.01	-0.45 (-5.87;4.98)	-0.01	-0.35 (-8.09;7.38)	0.18	6.01 (0.76;11.27)	-0.12	-7.61 (-18.00;2.78)	-0.08	-2.97 (-8.76;2.83)			
Immigrant from another rural area in the voivodeship	-0.04	-1.23 (-6.46;3.99)	-0.01	-0.31 (-7.76;7.14)	0.13	4.05 (-1.02;9.11)	-0.13	-7.98 (-17.99;2.03)	-0.10	-3.56 (-9.14;2.02)			

Immigrant from another city outside the voivodeship	0.07	2.09 (-2.77;6.96)	0.09	3.97 (-2.97;10.91)	0.24	7.19 (2.47;11.90)	-0.08	-4.73 (-14.05;4.59)	-0.34	-11.44 (-16.64;-6.24)
Immigrant from another rural area outside the voivodeship	0.07	2.68 (-2.50;7.87)	-0.20	-9.65 (-17.04;-2.25)	-0.02	-0.72 (-5.75;4.30)	-0.12	-7.56 (-17.49;2.38)	-0.19	-7.32 (-12.86;-1.78)
Immigrant from another country	-0.01	-0.51 (-7.59;6.58)	0.10	6.78 (-3.32;16.88)	0.00	-0.16 (-7.03;6.70)	-0.10	-8.82 (-22.39;4.75)	0.02	0.92 (-6.65;8.50)
6. North-West										
	Social participation			Social support			Social networks			Trust
	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)	Beta	B (95% CI)
Age	-0.20	-0.42 (-0.72;-0.11)	-0.14	-0.33 (-0.72;0.07)	-0.12	-0.23 (-0.52;0.07)	0.13	0.50 (-0.12;1.11)	0.05	0.10 (-0.24;0.43)
Females vs. Males	-0.10	-2.68 (-6.77;1.41)	0.09	2.75 (-2.54;8.03)	-0.07	-1.66 (-5.65;2.32)	-0.02	-1.18 (-9.38;7.01)	0.04	0.98 (-3.49;5.46)
Never married vs. Married	0.00	-0.25 (-10.55;10.06)	-0.12	-11.09 (-24.41;2.22)	-0.16	-11.37 (-21.42;-1.33)	0.15	21.53 (0.89;42.17)	-0.11	-8.36 (-19.64;2.93)
Separated/divorced vs. Married	-0.18	-10.51 (-18.75;-2.26)	-0.05	-3.39 (-14.04;7.26)	-0.16	-8.86 (-16.90;-0.83)	0.19	21.17 (4.66;37.69)	-0.10	-5.68 (-14.71;3.34)
Widowed vs. Married	0.09	2.90 (-1.73;7.53)	-0.07	-2.33 (-8.31;3.65)	-0.27	-7.54 (-12.05;-3.03)	0.21	11.70 (2.43;20.97)	0.01	0.33 (-4.74;5.39)
Number of years of education	0.29	1.11 (0.56;1.65)	0.02	0.09 (-0.62;0.80)	-0.03	-0.12 (-0.66;0.41)	0.00	0.01 (-1.09;1.11)	0.24	0.91 (0.30;1.51)
Currently working (No vs. Yes)	0.02	0.75 (-6.07;7.57)	0.18	10.19 (1.37;19.00)	0.02	1.02 (-5.63;7.66)	-0.12	-10.90 (-24.56;2.76)	0.00	0.02 (-7.45;7.49)
Self-rated health status	-0.16	-2.63 (-4.89;-0.36)	-0.05	-0.88 (-3.81;2.05)	-0.12	-1.88 (-4.09;0.33)	0.25	7.91 (3.37;12.45)	-0.18	-3.03 (-5.51;-0.54)
Living place (Rural vs. Urban)	0.23	7.82 (3.25;12.38)	0.08	3.12 (-2.78;9.01)	0.00	-0.12 (-4.56;4.33)	-0.02	-1.54 (-10.68;7.60)	0.16	5.58 (0.59;10.58)
Migration (reference category: Always living in current living place)										
Immigrant from another city in the voivodeship	-0.02	-0.78 (-7.45;5.88)	0.11	5.18 (-3.43;13.80)	0.12	4.54 (-1.96;11.04)	-0.04	-3.00 (-16.35;10.35)	0.12	5.10 (-2.20;12.40)
Immigrant from another rural area in the voivodeship	0.02	0.54 (-4.81;5.88)	-0.12	-4.23 (-11.14;2.67)	0.02	0.63 (-4.58;5.83)	-0.05	-2.84 (-13.54;7.86)	0.14	4.42 (-1.43;10.27)
Immigrant from another city outside the voivodeship	0.27	9.96 (3.90;16.01)	-0.08	-3.50 (-11.32;4.33)	0.02	0.73 (-5.17;6.63)	-0.09	-6.05 (-18.18;6.08)	0.18	6.60 (-0.04;13.23)
Immigrant from another rural area outside the voivodeship	-0.12	-4.55 (-10.73;1.63)	-0.13	-5.84 (-13.83;2.14)	0.00	0.04 (-5.98;6.06)	-0.03	-1.82 (-14.20;10.56)	0.10	3.69 (-3.07;10.46)
Immigrant from another country	0.04	2.67 (-7.40;12.74)	0.01	0.51 (-12.50;13.51)	0.08	5.21 (-4.61;15.02)	-0.08	-9.97 (-30.14;10.19)	-0.01	-0.50 (-11.52;10.53)

Bibliography

- Abbott, Stephen. 2010. Social Capital and Health: The Role of Participation. *Social Theory & Health* 8: 51–65.
- Berkman, Lisa F., Thomas Glass, Ian Brissette and Teresa E. Seeman. 2000. From Social Integration to Health: Durkheim in the New Millennium. *Social Science & Medicine* 51: 843–857.
- Beugelsdijk, Sjoerd and Ton van Schaik. 2005. Social Capital and Growth in European Regions: An Empirical Test. *European Journal of Political Economy* 21: 301–324.
- Birditt, Kira S., Lisa M. Jackey and Toni C. Antonucci. 2009. Longitudinal Patterns of Negative Relationship Quality across Adulthood. *The Journals of Gerontology. Series B. Psychological Sciences and Social Sciences* 64: 55–64.
- Bourdieu, Pierre. 1983. *Forms of capital*. In: P. Richardson (ed.). *Handbook of Theory and Research in the Sociology of Education*. New York: Greenwood Press..
- Bowling, Ann. 1997. *Measuring social networks and social support*. In: A. Bowling (ed.). *Measuring Health. A Review of Quality of Life Measurement Scales*. Buckingham. Philadelphia: Open University Press. s. 90–110.
- Browning, Christopher R. and Kathleen A. Cagney. 2002. Neighborhood Structural Disadvantage, Collective Efficacy, and Self-rated Physical Health in an Urban Setting. *Journal of Health and Social Behavior* 43: 383–399.
- Carlson, Per. 2004. The European Health Divide: A Matter of Financial or Social Capital? *Social Science & Medicine* 59: 1985–1992.
- Carpiano, Richard M. 2006. Toward a Neighborhood Resource-based Theory of Social Capital for Health: Can bourdieu and sociology help? *Social Science & Medicine* 62: 165–175.
- Carr, Deborah and Sara M. Moorman. 2011. *Social Relations and Ageing*. W: R.A. Settersten AND J.L. Angel (ed.). *Handbook of Sociology of Ageing*. Springer. s. 145–160.
- Cohen, Deborah A., Brian K. Finch, Aimee Bower and Narayan Sastry. 2006. Collective Efficacy and Obesity: The Potential Influence of Social Factors on Health. *Social Science & Medicine* 62: 769–778.
- Coleman, James S. 1988. Social Capital in the Creation of Human Capital. *The American Journal of Sociology* 94: 95–120.
- Dalgard, Odd S., Christopher Dowrick, Ville Lehtinen, Jose L. Vazquez-Barquero, Patricia Casey et al. 2006. Negative Life Events, Social Support and Gender Difference in Depression. *Social Psychiatry and Psychiatric Epidemiology* 41: 444–451.
- Engström, Karin, Fredrik Mattsson, Anders Järleborg and Johan Hallqvist. 2008. Contextual Social Capital as a Risk Factor for Poor Self-rated Health: A Multilevel Analysis. *Social Science & Medicine* 66: 2268–2280.
- Eurostat. *Regions in the European Union. Nomenclature of territorial units for statistics NUTS 2010/EU-27*. 2011.
- Finch, John F., Morris A. Okun, Manuel Barrera Jr, Alex J. Zautra and John W. Reich. 1989. Positive and Negative Social Ties among Older Adults: Measurement Models and the Prediction of Psychological Distress and Well-being. *American Journal of Community Psychology* 17: 585–605.

- Fiori, Katherine L., Toni C. Antonucci and Hiroko Akiyama. 2008. Profiles of Social Relations among Older Adults a Cross-cultural Approach. *Ageing & Society* 28: 203–231.
- Franzini, Luisa, Margaret Caughy, William Spears and Maria Eugenia Fernandez Esquer. 2005. Neighborhood Economic Conditions. Social Processes. and Self-rated Health in Low-income Neighborhoods in Texas: A Multilevel Latent Variables Model. *Social Science & Medicine* 61: 1135–1150.
- Garcia, E. L., J. R. Banegas, A. G. Perez-Regadera, R. H. Cabrera and F. Rodriguez-Artalejo. 2005. Social Network and Health-related Quality of Life in Older Adults: A Population-based Study in Spain. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation* 14: 511–520.
- Gary, Tiffany L., Sarah A. Stark and Thomas A. LaVeist. 2007. Neighborhood Characteristics and Mental Health among African Americans and Whites Living in a Racially Integrated Urban Community. *Health & Place* 13: 569–575.
- George, Linda K. 2006. *Perceived Quality of Life*. In: R.H. Binstock, L.K. George, S.J. Cutler, J. Hendricks and J.H. Schulz (red.). *Handbook of Ageing and the Social Sciences*. Academic Press, pp. 320–336.
- Higgs Paul and Ian R. Jones. 2009. *Medical Sociology and Old Age: Towards a Sociology of Health in Later Life*. London and New York: Taylor & Francis.
- Hughes, Mary E., Linda J. Waite, Louise C. Hawkey and John T. Cacioppo. 2004. A Short Scale for Measuring Loneliness in Large Surveys Results from Two Population-based Studies. *Research on Ageing* 26: 655–672.
- Hyypä, Markku T. 2010. *Healthy Ties. Social Capital. Population Health and Survival*. Springer.
- Hyypä, Markku T. and Juhani Maki. 2003. Social Participation and Health in a Community Rich in Stock of Social Capital. *Health Education Research* 18: 770–779.
- Islam, M. K., Juan Merlo, Ichiro Kawachi, Martin Lindstrom and Ulf G. Gerdtham. 2006. Social Capital and Health: Does egalitarianism matter? A Literature Review. *International Journal for Equity in Health* 5: 3.
- Jaźwińska, Ewa., Łukowski Wojciech and Okólski Marek. 1997. *Przyczyny i konsekwencje emigracji z Polski*. [The causes and the consequences of migrations from Poland]. Prace Migracyjne. Instytut Studiów Społecznych Uniwersytetu Warszawskiego 7: 1–83.
- Jackson, Matthew O. 2010. *Social and Economic Networks*. Princeton University Press.
- Kawachi, Ichiro and Lisa F. Berkman. 2001. Social Ties and Mental Health. *Journal of Urban Health : Bulletin of the New York Academy of Medicine* 78: 458–467.
- Kawachi, Ichiro, Bruce P. Kennedy and Roberta Glass. 1999. *Social Capital and Self-rated Health: A Contextual Analysis*. *American Journal of Public Health* 89: 1187–1193.
- Kawachi, Ichiro, Bruce P. Kennedy, Kimberly Lochner and Deborah Prothrow-Stith. 1997. Social Capital. Income Inequality. and Mortality. *American Journal of Public Health* 87: 1491–1498.

- Leonardi, Matilde, Somnath Chatterji, Seppo Koskinen, Jose L. Ayuso-Mateos, Josep M. Haro et al. 2013; doi: 10.1002/cpp.1856. Determinants of Health and Disability in ageing Population: The COURAGE in Europe Project (collaborative research on ageing in Europe). *Clinical Psychology & Psychotherapy*.
- Lin, Nan. 1999. Social Networks and Status Attainment. *Annual Review of Sociology* 25: 467–487.
- Litwin, Howard. 2001. Social Network Type and Morale in Old Age. *The Gerontologist* 41: 516–524.
- Lloyd-Sherlock, Peter. 2000. Population ageing in developed and developing Regions: Implications for Health Policy. *Social Science & Medicine* 51: 887–895.
- Mendes de Leon, Carlos F., Thomas A. Glass, Laurel A. Beckett, Teresa E. Seeman, Denis A. Evans and Lisa F. Berkman. 1999. Social Networks and Disability Transitions across Eight Intervals of Yearly Data in the New Haven EPESE. *The Journals of Gerontology. Series B. Psychological Sciences and Social Sciences* 54: S162–72.
- National Statistics Office. 2013. Polskie dane. *Quality of Life. Social Capital. Poverty and Social Exclusion in Poland*.
- Okólski, Marek. 2012. Modernising Impacts of Emigration. *Studia Socjologiczne* 3 (206): 49–79.
- Pichler, Florian and Claire Wallace. 2007. Patterns of Formal and Informal Social Capital in Europe. *European Sociological Review* 23: 423–435.
- Putnam, Robert D., Robert Leonardi and Raffaella Y. Nanetti. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton university press.
- Rose, Richard. 1995. Russia as an Hour-glass Society: A Constitution without Citizens. *East European Constitutional Review* 4: 34–42.
- Settersten, Richard A. and Jacqueline L. Angel. 2011. *Handbook of Sociology of Ageing*. Springer.
- Siegrist, Johannes and Michael Marmot. 2006. *Introduction. Social Inequalities in Health: Basic Facts*. W: J. Siegrist and M. Marmot (ed.). *Social Inequalities in Health: New Evidence and Policy Implications*. Oxford: Oxford University Press. s. 1–25.
- Silver Eric, Edward P. Mulvey and Jeffrey W. Swanson. 2002. Neighborhood Structural Characteristics and Mental Disorder: Faris and Dunham Revisited. *Social Science & Medicine* 55: 1457–1470.
- Steptoe, Andrew and Pamela J. Feldman. 2001. Neighborhood Problems as Sources of Chronic Stress: Development of a Measure of Neighborhood Problems, and Associations with Socioeconomic Status and Health. *Annals of Behavioral Medicine* 23: 177–185.
- van Oorschot, Wim, Wil Arts and John Gelissen. 2006. Social Capital in Europe. *Acta Sociologica (Sage Publications. Ltd.)* 49: 149–167.
- Veenstra, Gerry. 2000. Social Capital, SES and Health: An Individual-level Analysis. *Social Science & Medicine* 50: 619–629.
- Victor, Christina, Sasha Scambler, John Bond and Ann Bowling. 2000. Being Alone in Later Life: Loneliness, Social Isolation and Living Alone. *Reviews in Clinical Gerontology* 10: 407–417.

- Wen, Ming, Louise C. Hawkey and John T. Cacioppo. 2006. Objective and Perceived Neighborhood Environment. Individual SES and Psychosocial Factors. and Self-rated Health: An Analysis of Older Adults in Cook County, Illinois. *Social Science & Medicine* 63: 2575–2590.
- Wenger, G. C. 1997. Review of Findings on Support Networks of Older Europeans. *Journal of Cross-Cultural Gerontology* 12: 1–21.
- Woolcock, Michael. 2001. The Place of Social Capital in Understanding Social and Economic Outcomes. *Canadian Journal of Policy Research* 2: 11–17.
- Zawisza, Katarzyna, Aleksander Galas, Beata Tobiasz-Adamczyk, Somnath Chatterji, Josep M. Haro et al. 2013; doi: 10.1002/cpp.1860. The Validity of the Instrument to Evaluate Social Network in the Ageing Population: The Collaborative Research on Ageing in Europe Social Network Index. *Clinical Psychology & Psychotherapy*.

Regionalne różnice i uwarunkowania kapitału społecznego wśród polskich osób starszych

Streszczenie

Prezentowano różnice w ocenie nieformalnego kapitału społecznego przez osoby starsze, w sześciu regionach Polski według Klasyfikacji Jednostek Terytorialnych (NUTS). Podstawą analizy były badania przeprowadzone wśród 1299 starszych mieszkańców w Polsce. Oceniano poziom zaufania społecznego, sieci społeczne, wsparcie społeczne i poczucie samotności. W odniesieniu do determinantów oceny kapitału społecznego przez osoby starsze wzięto pod uwagę obok cech demograficzno-społecznych, subiektywną ocenę stanu zdrowia i zmiany miejsca zamieszkania. Badania pokazały zróżnicowanie kapitału społecznego w zależności od regionu – najwyższy w regionie południowo-zachodnim, najniższy w regionach: północno-zachodnim i wschodnim. Wśród determinantów obok poziomu wykształcenia i stanu cywilnego, zła subiektywna ocena stanu zdrowia i zmiany środowiska zamieszkania odgrywały istotną rolę w ocenie poszczególnych wymiarów kapitału społecznego.

Główne pojęcia: osoby starsze; regionalne różnice w nieformalnym kapitale społecznym; socjomedyczne determinanty.